

HAPPY ISLES GAUGING STATION BRIDGE REMOVAL PROJECT



Section 1 – Finding of No Significant Impact

Section 2 – Section 7 of the Wild and Scenic Rivers Act Determination

Section 1

Finding Of No Significant Impact

Purpose and Need

This Finding of No Significant Impact (FONSI) documents the decision of the National Park Service (NPS) to adopt a plan to remove Happy Isles Gauging Station Bridge and the determination that no significant impacts on the human environment are associated with that decision. The National Park Service proposes to remove the Happy Isles Gauging Station Bridge in Yosemite Valley, within Yosemite National Park. The need for the proposed project arose as a result of the 1997 flood damage to the Happy Isles Gauging Station Bridge. Structural damage sustained during the flood, as well as subsequent deterioration and structural failure (including a large sinkhole on the river-left abutment), have resulted in the need to remove the failing bridge. The National Park Service intends to remove the failing structure, which has been closed to the public since 1997, in order to avoid uncontrolled bridge collapse and resulting environmental consequences. A complete description of the proposal and its environmental consequences are contained in the *Happy Isles Gauging Station Bridge Removal Project Environmental Assessment*.

Alternatives Analyzed

The *Happy Isles Gauging Station Bridge Removal Project Environmental Assessment* analyzed two alternatives, Alternative 1: No Action, and Alternative 2: Controlled Demolition. These alternatives were developed by the National Park Service based on the proposed action's purpose and need, issues raised in scoping, and other public comment. The *Happy Isles Gauging Station Bridge Removal Project Environmental Assessment* disclosed the potential environmental consequences that may result from implementation of each alternative. Comments received during public review of the *Happy Isles Gauging Station Bridge Removal Project Environmental Assessment* were considered in preparation of this FONSI.

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Alternative 1: No Action Alternative. The No Action Alternative represents conditions and management practices as they currently exist for the Happy Isles Gauging Station Bridge. It provides the basis for comparison for the action alternative. Under the No Action Alternative, Happy Isles Gauging Station Bridge would continue to degrade and would eventually fail. Bridge collapse would likely occur during high flow conditions. Bridge-related debris would be deposited downstream, possibly damaging the historic Happy Isles Gauging Station and disrupting the validity of measurements from the gauging station pool. Deposition of bridge-related debris would also adversely affect natural, cultural, and scenic resources and recreation. Sudden collapse of the bridge could result in serious injuries and/or fatalities to recreational users of the river. The National Park Service would remove bridge debris from the river as soon as possible following bridge collapse, although the retrieval effort may be delayed by several months, since debris removal activities would need to occur during periods of low flow. Diverted river flows and erosion could result in adverse impacts to vegetation, soils, and cultural resources along the riverbanks. Over the long term, uncontrolled failure of the bridge largely would restore free flow of the Merced River at this location.

Alternative 2: Controlled Demolition. Alternative 2, Controlled Demolition, would partially remove the Happy Isles Gauging Station Bridge. The river-right abutment, which is located on a large boulder on the riverbank, would be retained to protect the historic Happy Isles Gauging Station. Alternative 2 would involve separating the bridge into liftable segments and removing the segments using equipment located on the riverbank. A temporary containment system (e.g., a reinforced tarp, netting, cage, or floating barge) would be installed beneath the Happy Isles Gauging Station Bridge to catch small amounts of debris during partial bridge removal. This containment system would prevent slurry from concrete saws, as well as small debris, from falling into the Merced River. However, not all demolition debris would be prevented from falling into the river; only masonry debris greater than 2 inches in any dimension and all metal debris would be removed. A temporary structural support system (e.g., scaffolding, jacks, or mechanical lifts) may be installed to prevent uncontrolled collapse of the bridge structure during demolition or to anchor the containment system.

Removal of Happy Isles Gauging Station Bridge would have short-term demolition-related impacts on natural, cultural, and social resources. Because demolition would occur in a controlled manner (e.g., within a delineated work area, during low-flow conditions, with the application of Best Management Practices), Alternative 2 would avoid the more pronounced adverse effects of uncontrolled bridge failure and debris retrieval activities described under Alternative 1. Demolition-related impacts would be reduced by application of Best Management Practices and resource-specific mitigation measures (refer to Chapter II). Minor regrading and revegetation would increase bank integrity, resulting in beneficial effects on soils, water quality, cultural resources, and biological resources. Similar to Alternative 1, controlled bridge removal

largely would restore the free-flowing condition of the Merced River and return this portion of the river to a more natural condition, thereby enhancing its biological and hydrologic integrity. Alternative 2 would have a long-term, beneficial effect on natural and scenic resources because it would return a portion of the riverbank to a more natural state (benefiting wetland and aquatic resources), restore the active flood regime and fluvial processes, and improve views from the riverbank. Retention of the river-right abutment would have minimal impacts to river flow because the abutment is anchored on a large boulder that controls the majority of flow around the abutment.

Alternatives Considered but Dismissed. The National Park Service considered three additional alternatives to the proposed action that were dismissed from further consideration because they did not meet the project's purpose and need. These included:

- *Complete Removal of Happy Isles Gauging Station Bridge.* To avoid damage to or loss of the gauging station, the National Park Service determined that the river-right abutment of the bridge should not be removed so that it could continue to protect the gauging station and streamflow gauge during high flows and flood events.

- *Repair of Happy Isles Gauging Station Bridge.* The National Park Service in consultation with the Federal Highway Administration determined that the existing bridge structure has been weakened and compromised in the vicinity of the river-left abutment due to the extent of concrete cracking, crushing, and displacement evidenced by the bridge. Damage to the bridge is sufficiently extensive such that any attempted repair would require complete removal and replacement of the concrete for the entire west abutment, wingwalls, and a portion of the affected superstructure.

- *Uncontrolled Demolition of the Happy Isles Gauging Station Bridge.* This alternative was dismissed from further consideration because it would not take measures to prevent demolition material from falling into the Merced River, and it would not allow for protection of the river-right abutment during removal.

Environmentally Preferable Alternative

The environmentally preferred alternative is determined by applying criteria identified in Section 101 of the National Environmental Policy Act (NEPA) to each alternative considered. In accordance with the NEPA, the environmentally preferred alternative would best: (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations; (2) assure for all generations safe, healthful, productive, and esthetically and culturally pleasing surroundings; (3) attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences; (4) preserve important historic, cultural and natural